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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,094	12/15/2003	William E. Woollenweber	2943/012	3290

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EXAMINER	
TRIEU, THAI BA	

ART UNIT	PAPER NUMBER
3748	

DATE MAILED: 08/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/736,094	WOOLLENWEBER ET AL.	
	Examiner	Art Unit	
	Thai-Ba Trieu	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *4-5, 8-9, and 15-24* is/are allowed.

6)☒ Claim(s) *1,3,6,7 and 10-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 June 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §.119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the Amendment filed on June 24, 2005. Applicant's cooperation in correcting the informalities in the Abstract is appreciated. Applicant's cooperation in amending the claims to overcome the claim objections relating to informalities is also appreciated. Claims 1, 4, 8-10, 12, and 19-24 were amended; and claims 2 were cancelled.

In view of newly discovery prior art, the indicated allowable subject matter of claims 2 and 12 has been withdrawn. A new Non-Final rejection set forth below.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter,which the applicant regards as his invention.

Claim 1 and its dependent claims 3, 6-7, and 10-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically,

- In claim 1, line 19, the recitation of ***"can be circulated"*** renders the claim indefinite, since it is not clear that under which condition the coolant can be circulated through the coolant cavity, and under which condition the coolant cannot be circulated. Applicant is required to identify each condition.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3, 6, and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hans (Patent Number DE 3537449 A1), in view of Fischer (Patent Number 6,425,743 B1) and Sabini (Patent Number 6,048,168).

Hans discloses a turbocharger for an internal combustion engine, comprising:

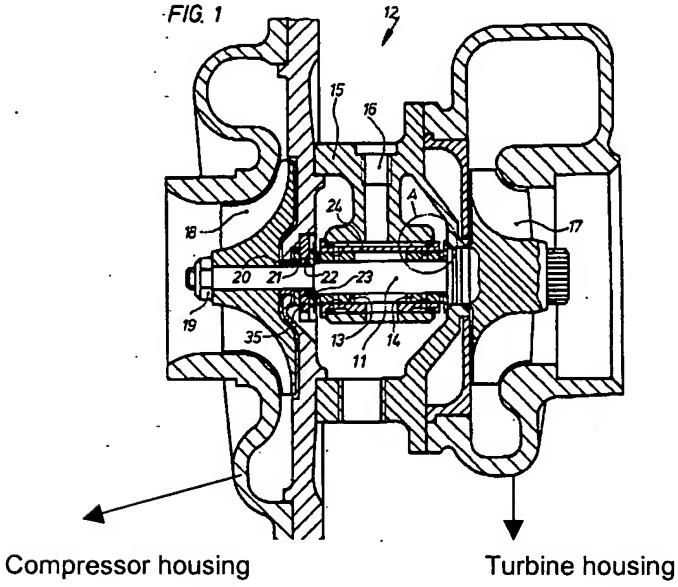
a rotating assembly comprising a turbine wheel (17) and a compressor wheel (18) carried at the opposite ends of a shaft (11) (See Figure 1); and

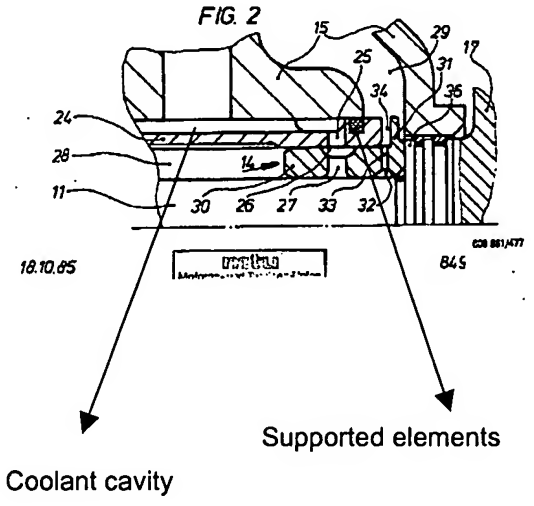
a stationary housing (15) comprising an exhaust gas volute (Not numbered) for directing engine exhaust gas through said turbine wheel (17) to rotate the rotating assembly, a compressor casing (Not Numbered) for collection of compressed air from the compressor wheel (18) and a bearing housing (15) (See Figure 1);

a bearing system for rotatably carrying said rotating assembly within the stationary housing, said bearing system comprising an elongated bearing carrier (24) supported by a plurality elements (Not Numbered) between the elongated bearing carrier (24) and said bearing housing (15) (See Figures 1-2); and a pair bearings (13, 14, 30), said bearing (13,14,30) being axially spaced and carried by the elongated bearing carrier (24) adjacent each of its ends, said pair of bearings

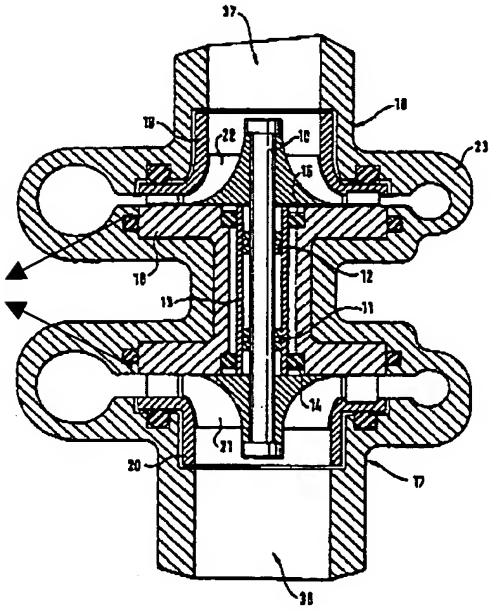
being engaged with said shaft (11) and rotatably carrying said rotating assembly within said stationary housing (See Figures 1-2, Abstract, Column 2, lines 31-68, and Column 3, lines 1-47); and

the bearing the bearing housing (15) and elongated bearing carrier (24) forming a coolant cavity (Not Numbered) sealed between the bearing housing and elongated bearing carrier by the plurality elements (Not Numbered), and wherein coolant can be circulated through said coolant cavity in contact with said elongated bearing carrier to remove heat from the rotating assembly and bearings See Figures 1-2, Abstract, Column 2, lines 31-68, and Column 3, lines 1-47).





However, Hans fails to disclose an elongated bearing carrier being removably supported by a plurality of elastic elements between the elongated bearing carrier and said bearing housing, wherein said removable elongated bearing carrier has cylindrical outside surface with a peripheral O-ring groove form on each side of said one surface, and said elastomeric bands are O-rings seated in said peripheral grooves; the bearings being anti-friction ball bearings; and said elongated bearing carrier having a cylindrical outer surface, and said plurality of elastic supported being O-rings, one O-ring surrounding the cylindrical outer surface of the elongated bearing carrier adjacent each of its ends.



Fischer teaches that it is conventional in the turbocharged internal combustion engine art, to utilize an elongated bearing carrier being removably supported by a plurality of elastic elements (Not Numbered) between the elongated bearing carrier and said bearing housing wherein said removable elongated bearing carrier has cylindrical outside surface with a peripheral O-ring groove (Not Numbered) form on each side of said one surface, and said elastomeric bands are O-rings seated in said peripheral grooves; and said elongated bearing carrier having a cylindrical outer surface, and said plurality of elastic supported being O-rings, one O-ring surrounding

the cylindrical outer surface of the elongated bearing carrier adjacent each of its ends (See Attached Figure).

Additionally, Sabini teaches that it is conventional in the bearing art, to utilize the anti-friction ball bearings comprising ceramic balls (20, 22) (See Figure 1, Abstract, and Column 2, lines 62-68, and Column 3, lines 1-8).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized elongated bearing carrier being removably supported by a plurality of elastic elements between the elongated bearing carrier and said bearing housing, as taught by Fischer; as well as, the anti-friction ball bearings comprising ceramic balls, as taught by Sabini, to improve the efficiency of the Hans device, since the use thereof would have increased the durability and reduced the manufacturing cost of the device.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hans (Patent Number De 3537449 A1), in view of Fischer (Patent Number 6,425,743 B1) and Sabini (Patent Number 6,048,168), and further in view Gutknecht (Patent Number 4,979,881),

The modified Hans device discloses the invention as recited above, however, fails to disclose the bearing housing containing an annular coolant water passage.

Gutknecht teaches that it is conventional in the ball bearings art for turbocharger, to utilize the bearing housing (12) containing an annular coolant water passage (via 72, 74, 56, 73, 75) that communicates with the outside surface of the elongated bearing

carrier and has an inlet (72, 74) and outlet (73, 75)for admitting and expelling engine coolant (See Figure, Abstract, Column 2, lines 27-68, and Column 3, lines 1-12).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the bearing housing containing an annular coolant water passage, as taught by Gutknecht, to cool down the turbocharger housing of the modified Hans device.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hans (Patent Number De 3537449 A1), in view of Fischer (Patent Number 6,425,743 B1) and Sabini (Patent Number 6,048,168), and further in view of Miyake (Patent Number 5,522,667).

The modified Hans device discloses the invention as recited above, however, fails to disclose the angular contact ball bearings carrying a full complement of ceramic balls.

Miyake teaches that it is conventional in the ball bearings art for turbocharger, to utilize the anti-friction ball bearings comprising angular contact ball bearings carrying a full complement of ceramic balls (See Figures 1-2C, Column 1, lines 30-50 and 65-67, Column 2, lines 1-13, and Column 5, lines 32-45).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the angular contact ball bearings carrying a full complement of ceramic balls, as taught by Miyake, to prevent the seizure of the ball bearings and to reduce the vibration of the modified Hans device.

Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hans (Patent Number De 3537449 A1), in view of Fischer (Patent Number 6,425,743 B1) and Sabini (Patent Number 6,048,168), and further in view of Mallof (Patent Number 6,305,169 B1).

The modified Hans device discloses the invention as recited above, however, fails to disclose the structural details of an electric motor generator.

Mallof teaches that it is conventional in the motor assisted turbocharger art, to utilized an electric motor generator having a motor housing connected to and carried by the compressor casing and a motor generator rotor connected to the turbocharger shaft; wherein the motor housing forms an inlet to the compressor wheel of the turbocharger with surfaces in heat transfer relationship with the motor components and electric control (See Figure 1, Column 5, line 8-11, Column 8, lines 23-53, Column 11, lines 27-48).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the structural details of an electric motor generator, as taught by Mallof, to improve the efficiency of the modified Hans device.

Allowable Subject Matter

Claims 4-5, 8, 9, and 15-24 are allowed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Wood (US Patent number 2,492,672) discloses a turbine driven fluid circulating unit.

Kobayashi (Patent Number JP 01-178723 A) discloses a cooling structure for turbocharger.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (571) 272-4867. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Additionally, the new Central FAX Number **(571) 273-8300** is effective on **July 15, 2005**. The old number (703-872-9306) will be routed to the new number until September 15, 2005.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB
August 09, 2005

Thai-Ba Trieu
Primary Examiner
Art Unit 3748